

WHAT IS CLAIMED IS:

1. A system for synchronizing clock dividers in a wireless network, comprising:

a first plurality of wireless base stations formed  
5 into a first cluster;

a second plurality of wireless base stations formed  
into a second cluster;

wherein at least a first wireless base station in  
the first cluster has a wireless communication link to a  
10 first wireless base station in the second cluster;

wherein the first wireless base station in the first  
cluster is operable to transmit a synchronization pulse  
to other wireless base stations in the first cluster and  
to the first wireless base station in the second cluster;

15 wherein the first wireless base station in the  
second cluster is operable to transmit the  
synchronization pulse to other wireless base stations in  
the second cluster;

20 wherein all of the wireless base stations are  
operable to reset internal clock dividers in response to  
the synchronization pulse.

2. The system of Claim 1, wherein the first  
wireless base station of the first cluster also lies in  
25 the second cluster.

3. The system of Claim 1, wherein the  
synchronization pulse is propagated to all wireless base  
stations over a wireless transmission link.

4. The system of Claim 3, wherein the propagation of the synchronization pulse occurs over a same wireless transmission link as used by all base stations to communicate with mobile stations.

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5. The system of Claim 3, wherein the propagation of the synchronization pulse occurs over the wired link used to connect the base stations to the network.

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6. The system of Claim 4, wherein the synchronization pulse is transmitted during a mobile station low usage period.

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7. The system of Claim 1, wherein the synchronization pulse is transmitted on a periodic basis.

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8. The system of Claim 1, wherein the synchronization pulse is transmitted on a non-periodic basis.

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9. The system of Claim 1, wherein the internal clock dividers are operable to generate local signals for use by corresponding base stations in response to receipt of a master clock signal.

10. The system of Claim 9, wherein the synchronization pulse is operable to provide synchronization of local signals among all of the wireless base stations.

11. The system of Claim 10, wherein the local signals between all of the wireless base stations are synchronized to within one period of the master clock signal.

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12. A method for synchronizing clock dividers in a wireless network, comprising:

grouping a first plurality of wireless base stations into a first cluster;

10 grouping a second plurality of base stations into a second cluster, one of the first plurality of wireless base stations being in the second cluster;

transmitting a synchronization pulse to each of the first plurality of wireless base stations in the first cluster;

15 transmitting the synchronization pulse to the second plurality of wireless base stations in the second cluster through the one of the plurality of first wireless bases stations in the second cluster;

20 resetting clock dividers in each wireless base station in response to the synchronization pulse.

25 13. The method of Claim 12, wherein the synchronization pulse is transmitted over a same wireless interface used for communications by mobile stations.

14. The method of Claim 12, further comprising:  
receiving a master clock signal at each clock  
divider

generating local signals from each clock divider in  
5 response to the master clock signal;

synchronizing the local signals to within one period  
of the master clock signal in response to the  
synchronization pulse.

10 15. The method of Claim 12, wherein the  
synchronization signal is transmitted periodically from a  
particular one of the first plurality of wireless base  
stations in the first cluster.

15 16. The method of Claim 12, wherein the  
synchronization pulse is transmitted on a non-periodic  
basis.

20 17. A base station for use in a wireless network,  
comprising:

a local clock unit having a clock divider, the clock  
divider operable to receive a master clock signal, the  
clock divider operable to generate local signals in  
response to the master clock signal;

25 a wireless interface operable to receive a  
synchronization pulse, the clock divider operable to  
reset in response to the synchronization pulse so that  
the local signals can be synchronized with local signals  
from other base stations.

30 18. The base station of Claim 17, wherein the  
wireless interface is operable to transmit the  
synchronization pulse to one or more other base stations.

19. The base station of Claim 17, wherein the wireless interface provides communications for one or more mobile stations.

5        20. The base station of Claim 17, wherein the local signals are synchronized to within one period of the master clock signal.